Method of depositing nano-scale gold particles

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The present invention provides a method of depositing a nano-scale gold particles, which comprises immersing a substrate with an aminosilane solution of an organic solvent; heating the solution with the immersed substrate; baking the substrate; immersing the substrate in a solution containing gold particles; and baking the substrate. The aminosilane according to the present invention is soluble in an organic solvent, instead of water, thereby avoiding the Si-O-Si bonds formed from being attacked and damaged. The method according to the present invention can form a stable Si-O-Si bonding on the substrate for the convenience of a subsequent deposition of nano-scale gold particles. The present invention can be applied on the production of a single electron transistor, therefore has a very high industrial applicability.